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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,473	06/14/2001	Saeed Fereshtehkhoh	6798MD	7501

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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/881,473	FERESHTEHKHOU ET AL.	
	Examiner	Art Unit	
	Ula C Ruddock	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendment and accompanying remarks filed November 18, 2002. The 112, 2nd paragraph rejections have been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102/103

3. Claims 1-17, 23-27, 35, 36, 44-48, and 50-54 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shizuno et al. (US 5,525,397). Shizuno et al. disclose a cleaning sheet comprising a network sheet and a nonwoven fiber aggregate formed by the entanglement of fibers of a fiber web. The fibers of the nonwoven fiber aggregate are further entangled with the network sheet (abstract) by water needling, i.e. hydroentangling (col 1, ln 64). The cleaning sheet is used for the purposes of collecting various kinds of dust (col 1, ln 12-14). The cleaning sheet can comprise a network sheet and two nonwoven fiber aggregates. The nonwoven fiber aggregate which is formed by the entanglement of fibers of a fiber web is disposed on opposite sides of the network sheet. The fibers of the nonwoven fiber aggregates are further entangled with the network sheet (col 3, ln 6-22). The material of the network sheet and the fiber aggregate may be selected from polyester, polyamides, and polyolefins (col 3, ln 39-47 and col 4, ln 3-10). The nonwoven fiber aggregate can be combined with a surface-active agent or a lubricant which can improve the surface physical properties of the fiber aggregate and can adsorb dust, or can be combined with a lubricant which imparts gloss to the surface to be cleaned (col 4, ln 26-31). The cleaning sheet is attached to a

cleaning tool such as a mop handle (col 4, ln 48-51). Furthermore, it should be noted that the Examiner is equating Figures 1 and 2 of Shizuno et al. to the peaks and valleys of the present invention. As a result, Shizuno et al. do disclose a macroscopically three-dimensional textured cleaning sheet.

Although Shizuno et al. do not explicitly teach the claimed properties, i.e. Average Peak to Peak Distance, Surface Topography Index, and Average Height Differential, it is reasonable to presume that these properties are inherent to Shizuno's article. Support for said presumption is found in the use of like materials, i.e. hydroentangled cleaning sheets made of polyester or polyolefin fibers. The burden is upon Applicant to prove otherwise. Note *In re Fitzgerald*, 205 USPQ 495. Without a showing that evidences a difference between the prior art and the present invention, anticipation is proper. In addition the presently claimed properties of Average Peak to Peak Distance, Surface Topography Index, and Average Height Differential would obviously have been present once the Shizuno et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

Claim Rejections - 35 USC § 103

4. Claims 18-22 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuno et al. (US 5,525,397), as set forth above, in view of Henry (US 4,064,061) or Thrasher (US 5,342,436). Shizuno et al. disclose the claimed invention but fail to teach that the sheet is treated with an additive comprises a mineral oil or a wax at an add-on level of at least about 0.01-25% by weight at a ratio of oil to wax of from about 3:7 to about 99:1. Henry teaches a cleaning cloth

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composition that includes mineral oil and paraffin wax (col 1, ln 50 to col 2, ln 1-2) and Thrasher teaches a composition comprises paraffin wax dispersed in mineral oil (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used either Henry's or Thrasher's composition on Shizuno's cleaning sheet motivated by the desire to obtain a fibrous structure that leaves a protective residue on the surface to be cleaned.

It also would have been obvious to one having ordinary skill in the art to have the add-on amount of the additive and the ratio of oil to wax be within the claimed range, since it has been that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the add-on amount and the ratio of oil to wax in order to create a fibrous structure that can leave either a thin or thick protective residue.

5. Claims 28-30, 37, 40-43, 49, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuno et al. (US 5,525,397), as set forth above, in view of Gilmore et al. (US 5,369,858). Shizuno et al. disclose the claimed invention except for the teaching that the cleaning sheet further comprises a scrim material hydroentangled with the fibrous layers and the scrim material is made of a polypropylene. Gilmore et al. disclose a nonwoven fabric comprising at least one layer of a net (i.e. a scrim) of polymer filaments and at least one web of melt blown microfibers bonded together by hydroentangling (abstract). The polymeric nets can be prepared from polypropylene fibers (col 7, ln 7-8). It would have been obvious to one having ordinary skill in the art to have used Gilmore's scrim in the cleaning sheet of Shizuno et al. motivated by the desire to obtain a cleaning sheet with increased tensile strength.

Furthermore, with regard to claim 37, Shizuno et al. do not explicitly teach the claimed properties, i.e. Average Peak to Peak Distance, Surface Topography Index, and Average Height Differential, it is reasonable to presume that these properties are inherent to Shizuno's article. Support for said presumption is found in the use of like materials, i.e. hydroentangled cleaning sheets made of polyester or polyolefin fibers. The burden is upon Applicant to prove otherwise. Note *In re Fitzgerald*, 205 USPQ 495. Without a showing that evidences a difference between the prior art and the present invention, anticipation is proper. In addition the presently claimed properties of Average Peak to Peak Distance, Surface Topography Index, and Average Height Differential would obviously have been present once the Shizuno et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

6. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuno et al. (US 5,525,397) and Gilmore et al. (US 5,369,858) as applied to claim 37 above, and further in view of Henry (US 4,064,061) or Thrasher (US 5,342,436). Shizuno et al. and Gilmore et al. disclose the claimed invention except for the teaching that an additive selected from the group consisting of wax, oil, and mixtures thereof is included on the cleaning at a level of from about 4-8% by weight.

Henry teaches a cleaning cloth composition that includes mineral oil and paraffin wax (col 1, ln 50 to col 2, ln 1-2) and Thrasher teaches a composition comprises paraffin wax dispersed in mineral oil (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used either Henry's or Thrasher's composition on Shizuno's

cleaning sheet motivated by the desire to obtain a fibrous structure that leaves a protective residue on the surface to be cleaned.

Furthermore, it should be noted that optimizing the amount of wax and oil on a substrate is a result effective variable; the more wax on the substrate, the greater the soil adhesion. It also would have been obvious to one having ordinary skill in the art to have the add-on amount be within the claimed range, since it has been that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the add-on amount of the oil or wax in order to create a fibrous structure that can leave either a thin or thick protective residue.

7. Claims 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuno et al. (US 5,525,397), as set forth above, in view of Mackey (US 5,756,112). Shizuno et al. disclose the claimed invention except for the teaching that the additive is a microcrystalline wax and that is on the outward surfaces at a level of from about 0.1 to about 25% by weight.

Mackey discloses a nonwoven substrate (col 4, ln 20-36) with a microcrystalline wax (col 8, ln 1-19) impregnation. It would have been obvious to one having ordinary skill in the art to have used Mackey's crystalline wax on the cleaning sheet of Shizuno et al. motivated by the desire to increase the soil adhesion properties of Shizuno's cleaning sheet.

Furthermore, it should be noted that optimizing the amount of wax on a substrate is a result effective variable; the more wax on the substrate, the greater the soil adhesion. As a result, it would have been obvious to one having ordinary skill in the art to have the add-on level be

within the claimed range, since it has been that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to have used 0.1 to 25% by weight of the microcrystalline wax in order to create a fibrous structure that can leave either a thin or thick protective residue.

8. Claims 60-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuno et al. (US 5,525,397) and Gilmore et al. (US 5,369,858), as set forth above, in view of Mackey (US 5,756,112). Shizuno et al. and Gilmore et al. disclose the claimed invention except for the teaching that the additive is a microcrystalline wax and that is on the outward surfaces at a level of from about 0.1 to about 25% by weight.

Mackey discloses a nonwoven substrate (col 4, ln 20-36) with a microcrystalline wax (col 8, ln 1-19) impregnation. It would have been obvious to one having ordinary skill in the art to have used Mackey's crystalline wax on the cleaning sheet of Shizuno et al. and Gilmore et al. motivated by the desire to increase the soil adhesion properties of Shizuno's cleaning sheet.

Furthermore, it should be noted be noted that optimizing the amount of wax on a substrate is a result effective variable; the more wax on the substrate, the greater the soil adhesion. As a result, it would have been obvious to one having ordinary skill in the art to have the add-on level be within the claimed range, since it has been that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to have used 0.1 to 25% by

weight of the microcrystalline wax in order to create a fibrous structure that can leave either a thin or thick protective residue.

9. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuno et al. (US 5,525,397), Gilmore et al. (US 5,369,858), and Mackey (US 5,756,112), as applied to claims 60 and 61 above, and further in view of Zelazoski et al. (US 5,536,555). Shizuno et al., Gilmore et al., and Mackey disclose the claimed invention except for the teaching that the scrim material is shrinkable.

Zelazoski et al. disclose a quilted laminate wherein a film is laminated to a fibrous nonwoven web substrate (abstract). The composite has an undulating surface through the use of a heat shrinkable scrim bonded to the nonwoven substrate (col 9, ln 23-28). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used Zelazoski's heat shrinkable scrim in the cleaning sheet of Shizuno et al., Gilmore et al., and Mackey motivated by the desire to create a surface with a greater degree of undulations (i.e. peaks and valleys).

Response to Arguments

10. Applicant's arguments filed November 18, 2002, have been fully considered but they are not persuasive for the reasons set forth. Applicant argues that Shizuno et al. fail to teach a macroscopically three-dimensional cleaning sheet. This argument is not persuasive because as discussed above, Figures 1 and 2 of Shizuno et al. show peaks and valleys. Furthermore, Applicant's claims are not specific to a particular surface pattern.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C Ruddock whose telephone number is 703-305-0066. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

UCR *UCR*
January 23, 2003

Elizabeth M. Cole
ELIZABETH M. COLE
PRIMARY EXAMINER